

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:**Siegenthaler, Peter**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-022423**Date Inspected:** 05-Apr-2011**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1900**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** An Qing Xiang**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** OBG**Summary of Items Observed:**

On this day CALTRANS OSM Quality Assurance (QA) Inspector Umesh Gaikwad was present during the times noted above for observations relative to the fabrication of the SAS Superstructure being performed by Zhenhua Port Machinery Company (ZPMC) at Changxing Island in Shanghai, China. QA observed and/or found the following:

This Quality Assurance (QA) Inspector observed the following work in progress:

Bay 14

OBG Seg 14W:

During random in process visual inspection this QA Inspector observed that some of the weld joints were changed from Fillet weld to Complete Joint Penetration (CJP) because of excessive root gap. The weld numbers are identified as follows.

- 1) SEG3020E-115/116, 121/122; Root Gap-9mm
- 2) SEG3020AW-009/010, 015/016, 021/022, 027/028, 033/034, 039/040; Root Gap-6~9mm
- 3) SEG3020Q-136/137, 140/141, 144/145, 148/149, 170/171, 187/188, 035, 036; Root Gap-6~9mm
- 4) SEG3020W-043/044, 049/050, 053/054, 173/174, 177/178; Root Gap-6~9mm
- 5) SEG3020L-163/164; Root Gap-9mm
- 6) SEG3020N-005/006; Root Gap-7mm

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7) SEG3020J-051/052, 029/030, 031/032; Root Gap-18mm

The Shielded Metal Arc Welding (SMAW) process on weld joint no: SEG3020BB-020 [Top anchorage plate (AP) 3014A to Vertical Shear Plate sub-assembly SA3445A, Complete Joint Penetration (CJP) weld in between panel point PP125 to PP126]. The welder is identified as 067765 and was observed welding in 4G position. ZPMC QC was identified as Mr. An Qing Xiang. The welding variables recorded by this QC appeared to comply with WPS: B-P-2214-Tc-U4b-FCM-1.

The SMAW process on weld joint no: SEG3020AG-009 [Edge Plate (EP) 3030D to Edge Plate (EP) 3030E, CJP weld in between PP127 to PP127.5]. The welder is identified as 037779 and was observed welding in 2G position. ZPMC QC was identified as Mr. An Qing Xiang. The welding variables recorded by this QC appeared to comply with WPS: B-P-2212-Tc-U4b-FCM-1.

The Shielded Metal Arc Welding (SMAW) process on weld joint no: SEG3020BB-002 [Top anchorage plate (AP) 3013A to Vertical Shear Plate sub-assembly SA3442A, CJP weld in between panel point PP125 to PP126]. The welder is identified as 037932 and was observed welding in 4G position. ZPMC QC was identified as Mr. An Qing Xiang. The welding variables recorded by this QC appeared to comply with WPS: B-P-2214-Tc-U4b-FCM-1.

The Shielded Metal Arc Welding (SMAW) process on weld joint no: SEG3020BB-056 [Top anchorage plate (AP) 3015A to Vertical Shear Plate sub-assembly SA3449A, CJP weld in between panel point PP125 to PP126]. The welders are identified as 069841 and 066261 and were observed welding in 4G position. ZPMC QC was identified as Mr. An Qing Xiang. The welding variables recorded by this QC appeared to comply with WPS: B-P-2214-Tc-U4b-FCM-1.

The Flux Cored Arc Welding (FCAW) process on weld joint no: SEG3020G-006 [Deck Panel diaphragm plate X4876C of Deck Panel (DP) 3176A to Flange of Floor Beam (FB) 3341A, CJP weld at PP128]. The welder is identified as 067245 and was observed welding in 2G position. ZPMC QC was identified as Mr. Zhu Lin. The welding variables recorded by this QC appeared to comply with WPS: B-T-2232-ESAB.

The Shielded Metal Arc Welding (SMAW) process on weld joint no: SEG3020BB-029 [Top anchorage plate (AP) 3014A to Vertical Shear Plate sub-assembly SA3446A, CJP weld in between panel point PP125 to PP126]. The welder is identified as 037748 and was observed welding in 4G position. ZPMC QC was identified as Mr. An Qing Xiang. The welding variables recorded by this QC appeared to comply with WPS: B-P-2214-Tc-U4b-FCM-1.

The Flux Cored Arc Welding (FCAW) process on weld joint no: SEG3020N-065 [Deck Panel diaphragm plate X4879B of deck panel (DP) 3172A to top anchorage plate (AP) 3018A, CJP weld at PP126.5]. The welder is identified as 066239 and was observed welding in 2G position. ZPMC QC was identified as Mr. Zhu Lin. The welding variables recorded by this QC appeared to comply with WPS: B-T-2232-ESAB.

The Flux Cored Arc Welding (FCAW) process on weld joint no: SEG3020N-014 [Deck Panel diaphragm plate X4879B of DP3173A to deck panel diaphragm plate X4816G of DP3174A, CJP weld at PP126.5]. The welder is identified as 066421 and was observed welding in 3G position. ZPMC QC was identified as Mr. Zhu Lin. The

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welding variables recorded by this QC appeared to comply with WPS: B-T-2233-ESAB.

The Flux Cored Arc Welding (FCAW) process on weld joint no: SEG3020E-010 [Deck Panel diaphragm plate X4856K of DP3175A to block out bottom plate sub assembly SA3416C, CJP weld at PP128.3]. The welder is identified as 067949 and was observed welding in 2G position. ZPMC QC was identified as Mr. Zhu Lin. The welding variables recorded by this QC appeared to comply with WPS: B-T-2232-ESAB. Attached photograph provide additional details.

During random in process visual inspection this QA Inspector observed that AB/F NDT personnel Mr. Lin Ming was performing Magnetic Particle Testing (MT) after root pass of weld joint SEG3020H-011 joining deck panel diaphragm plate X4879C of DP3172A/DP3173A to flange of FB3332A at PP127.5. Attached photograph provide additional details.

Unless otherwise noted, all work observed on this date appeared to generally comply with applicable contract documents.



Summary of Conversations:

Only general conversation was held between QA and QC concerning this project.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Eric Tsang : 15000422372, who represents the Office of Structural Materials for your project.

Inspected By: Gaikwad,Umesh

Quality Assurance Inspector

Reviewed By: Peterson,Art

QA Reviewer